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JUL 1 5 1991

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Keilh &. Pulhose

David M. Hunsaker

Plichard John Ruddy, Jr. Lary S. Topper

John G. Trenl

*Maryland and D. G. Bare only

July 15, 1991



Donna R. Searcy, Secretary Federal Communications Commission 1919 M Street, NW Washington, D.C. 20554

Dear Madam Secretary:

Re: BPED-900606MC, as amended; Supplement to Petition to Dismiss or Deny

On behalf of Carnegie-Mellon Student Government Corporation, Licensee of Noncommercial, Educational, FM Broadcast Station WRCT (FM), Pittsburgh, Pennsylvania, there is submitted herewith, an original and five copies of its Supplement to Petition to Dismiss or Deny the above-captioned Application of He's Alive, Incorporated for a permit to construct a new Noncommercial, Educational FM Station in Murrysville, Pennsylvania.

Should there be any questions concerning this matter, please contact this Office.

Very truly yours,

David M. Hunsaker

DMH:wp

cc:

Carnegie-Mellon Student Government Corporation Lee J. Peltsman, Esquire Earl R. Stanley, Esquire

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FM EXAMINERS

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JUL 1 5 1991

Federal Communications Commission

Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION OFFICE OF THE SECRETARY

In re Application(s) of:)
HE'S ALIVE, INCORPORATED for a New Noncommercial, Educational Broadcast Station at Murrysville, PA) FCC File No. BPED- 900606MC
	}

To: The Chief, Audio Services Division

SUPPLEMENT TO PETITION TO DISMISS OR DENT

Carnegie-Mellon Student Government Corporation ("CMSOC") by Counsel, hereby respectfully submits this Supplement¹ to the Petition to Dismiss or Deny the above-captioned Application of He's Alive, Incorporated ("HAI") for a Permit to construct a new Noncommercial Educational FM Radio Station on Channel 201 in Murrysville, Pennsylvania. In support whereof, the following is shown:

Preliminary Statement

- 1. CMSGC is the Licensee of NCE FM Broadcast Station WRCT (FM), Pittsburgh, Pennsylvania, and presently operates on Channel 202 with an ERP of 100 watts. CMSGC has filed an Application with the Commission for a Construction Permit to increase its ERP on Channel 202 to 1.5 kW. The Application was accepted for filing as of August 30, 1990 (FCC File No. BPED-1108MA), and placed on cut-off for October 4, 1990 (Report No. A-202). Prior to the release of the cut-off notice, HAI tendered its Application for a new NCE FM facility on Channel 201 with an ERP of 100 watts and an HAAT at 67 meters.²
- 2. On April 10, 1991, CMSGA filed a Petition to Dismiss or Deny the HAI Application. CMSGA established, through engineering snowings, that the HAI application,

¹CMSGA obtained the consent of WJAC, Inc., Licensee of WJAC-TV, Johnstown, PA, and HAI to extend the date to respond to HAI's amended proposal to July 15, 1991. See "Consent Motion for Extension of Time," filed June 28, 1991.

²On December 6, 1990 the FM Branch returned HAI's application as patently defective, due to prohibited overlap with the existing operation of WRCT. (Ref. 8920-JRW). HAI thereafter resubmitted its application with an amended proposal for 50 watts ERP, and requested reinstatement nunc pro tunc.

as then proposed, would create prohibited interference with reception of WJAC-TV (Channel 6), Johnstown, Pennsylvania, in violation of Section 73.525(c) of the Rules (47 CFR §73.525(c)). In addition, CMSGA raised questions about the availability of HAI's proposed transmitter site. WJAC, Inc., the Licensee of WJAC-TV, also filed a Petition to Deny the HAI Application on April 12, 1991, and also alleged a violation of 47 CFR §73.525(c).

- 3. On May 20, 1991, HAI responded to the CMSGA and WJAC petitions by amending its proposal to specify a different transmitter site, and a modified operation, using a directional antenna, which HAI asserted would resolve the objectionable interference to WJAC, and which mooted the question of site availability raised by CMSGA. Additional time was requested by both WJAC and CMSGA to respond to this amended proposal. The instant "Supplement" is CMSGA's response thereto.
- 4. The HAI Application, as amended, remains mutually exclusive with the Application of CMSGC for major change in facilities. Grant of the HAI would preclude the grant of CMSGC's power increase Application. Accordingly, CMSGC continues to have standing, as an interested party, under the Commission's Rules, to file this Petition. See, FCC v. Sanders Brothers Radio Station, 309 U.S. 470 (1940).

ARGUMENT

5. CMSGA's consulting engineer has reviewed HAI's amendment, and has concluded that, while there appears to be some interference to reception of WJAC-TV Channel 6, it would not be in excess of 3,000 persons, and thus not a violation of §73.525(c) of the rules. As to the question of site availability, HAI has mooted CMSGA's original objection by proposing to relocate to another site and to construct a new tower and antenna on that site. However, CMSGA wishes to note, that, nowhere in HAI's amended proposal is there included a statement that HAI has reasonable assurance of the availability of this new

site.³ There thus remains a lingering question as to whether or not HAI does, in fact, have reasonable assurance of the continuing availability of this new amended site.

6. In addition, the amended proposal of HAI raises several new questions, which require resolution before HAI's Application can be accepted. As shown below, (1) the amended proposal does not comply with the requirements of 47 CFR §73.316 concerning the specification of a directional antenna; (2) the added cost of a tower and directional antenna which were not originally included in the HAI application, raise questions concerning HAI's financial qualifications to be a licensee of the Commission; and (3) the amended proposal would not provided adequate service to Murrysville, HAI's proposed community of license.

I. The HAI Application Does Not Comply With the Provisions of 47 CFR §73.316

- 7. Attached hereto, as *Exhibit 1* is the Engineering Statement of Benjamin Evans, whose credentials are a matter of record before the Commission. Mr. Evans states that he has reviewed the amended proposal submitted by HAI on May 20, 1991, and found it deficient with respect to compliance with the Commission's rules concerning the specification of directional antennae.
- 8. Incomplete Description of Directional Antenna. First, Mr. Evans notes that §73.316(c) requires that a complete description of the proposed directional antenna be included in a proposal, which shall include the manufacturer and model number of the antenna. This was not done by HAI's engineer in the amendment. Nor does the engineer describe the design of the antenna as is also required by the rules. All that is submitted is a the antenna pattern.
- 9. Excessive Nulls at 340° and 350° Radials. With respect to the antenna pattern submitted, Mr. Evans notes that the tabulation of fields is in error, and that the pattern exceeds the maximum permitted ratio between maximum and minimum fields by more than 15 dB on the 340° and 350° radials, in violation of §73.316(b)(1).

³While CMSGA acknowledges that FCC Form 340 does not require a site availability certification as does FCC form 301 (commercial stations), it would seem more than merely appropriate for HAI to include in its amended proposal, some documentation or certification of the availability of this new site, since the issue of site availability had previously been raised.

10. Pattern Exceeds Rate of Change Requirement. Section 73.316(b)(2) states that FM directional antennas that have a radiation pattern which varies by more than 2 dB per 10° of azimuth will not be authorized. Mr. Evans' own calculations of the data supplied on the pattern in the HAI amendment indicate that the 2 dB deviation limit is exceeded between the 30° and 40° radials, the 140° and 150° radials, the 220° and 230° radials, the 300° and 310° radials, and between the 330° and 340° radials. While the deviation on some of these radials is not overly severe, the cumulative effect of five separate deviations, makes the proposed antenna clearly in violation of §73.316(b)(2). Given the other violations listed hereinabove, it must be concluded that the amendment is not acceptable, and, as a consequence, the Application must be dismissed.

II. HAI Has Not Established Its Financial Qualifications

11. As noted by Mr. Evans, the use of a directional antenna adds significantly to the cost of construction of an FM station. Estimates Mr. Evans obtained from equipment manufacturers that for a three-bay dipole antenna⁵ average around \$22,000, as opposed to a non-directional, 3-bay standard model which would cost about \$5,000. While a panel antenna could more easily duplicate the pattern submitted, its cost could well equal \$35,000. When adds either of these costs to the added cost of constructing a tower, a sufficient question is raised as to whether HAI now possesses reasonable assurance of the availability of sufficient funds on hand or from committed sources, to construct its proposed station. At the very least, HAI should be required to recertify its financial qualifications⁶ before the amendment can be found acceptable.

⁴See Figure 1 of the attached Engineering Exhibit.

⁵Mr. Evans observes that it will be exceedingly difficult, if not impossible to duplicate the proposed pattern using a conventional dipole antenna. This may be the reason why HAI did not include any manufacturer's data and description in its amended proposal.

⁶See FCC Form 340, Section III, page 5.

III. Under Its Amended Proposal HAI Will Not Provide Satisfactory Aural Broadcast Service to Murrysville, Pennsylvania, HAI's Proposed Community of License

12. Finally, CMSGA wishes to note that the amended proposal will place a 60 dBu (1 mV/m) contour over not more than 21% of Murrysville, Pennsylvania, based upon the Commission's prescribed method of predicting FM signal strength contours. Moreover, based upon a supplemental showing as permitted in the Rules, it appears that almost all of Murrysville would be shadowed due to terrain obstructions identified in the 3-arc-second computerized terrain database. It is acknowledged that the Subpart C of Part 73 of Commission's Rules do not specify any minimum signal strength contour which must be placed over the proposed community of license of a noncommercial, education FM radio station. However, when an applicant proposes to place a 1 mV/m contour over not more than one-fifth of its proposed community of license, the public interest demands that such an application be dismissed as unacceptable, or an alternative community, which would receive minimum acceptable service, be specified by the applicant.

Conclusion

13. The HAI Application, as amended, continues to contain defects which render it unacceptable for filing. It fails to meet the Commission's requirements for the specification of directional antennas, as set forth in 47 CFR §73.316(b) and (c) of the Rules; it raises a prima facia question concerning the continued financial qualifications of the applicant; and it patently fails to provide meaningful broadcast service to its proposed community of license. For any and all of these reasons, the application should be dismissed.

^{&#}x27;See Figure 3 of attached Engineering Statement.

⁸As noted by Mr. Evans, however, the HAI does seem to be in violation of Section 73.315 which requires that FM transmitters be located so as to have a direct line-of-sight path to the proposed community of license.

WHEREFORE, the above premises considered, CMSGC respectfully urges that the Application of He's Alive, Incorporated for a new NCE-FM Station in Murrysville, Pennsylvania, as amended by amendment of May 20, 1991, be DISMISSED or DENIED as unacceptable for filing.

Respectfully submitted,

CARNEGIE-MELLON STUDENT GOVERNMENT CORPORATION

David M Hunsaker

Its Attorney

July 15, 1991

Law Offices
PUTBRESE, HUNSAKER & RUDDY
6800 Fleetwood Road, Suite 100
P.O. Box 539
McLean, Virginia 22101
(703) 790-8400

ENGINEERING EXHIBIT

PETITION TO DENY APPLICATION OF HE'S ALIVE, INC.
FOR A NEW NCE-FM STATION
AT MURRYSVILLE, PENNSYLVANIA
(FCC FILE NO. BPED-900606MC)

FILED BY: CARNEGIE-MELLON STUDENT GOVERNMENT CORPORATION
LICENSEE OF WRCT (FM)
PITTSBURGH, PENNSYLVANIA

JULY 1991

ENGINEERING STATEMENT

This Engineering Statement and the attached figures were prepared by or under the direction of B. Benjamin Evans of Evans Associates, Consulting Communications Engineers in Thiensville, Wisconsin, on behalf of Carnegie-Mellon Student Government Corporation, licensee of NCE-FM station WRCT in Pittsburgh, Pennsylvania. This Engineering Exhibit is in support of Carnegie-Mellon's petition to deny an application filed by He's Alive, Inc. for a new NCE-FM station on Channel 201 to serve Murrysville, Pennsylvania (FCC file no. BPED-900606MC).

On December 20, 1990, He's Alive, Inc. filed an FCC 340 construction permit application for a new NCE-FM station at Murrysville, Pennsylvania, with requested facilities of 50 watts ERP and 67 meters antenna HAAT on Channel 201 (88.1 MHz). On or about April 12, 1991, Carnegie-Mellon submitted a Petition to Deny the application of He's Alive based on an engineering study, prepared by this affiant, which revealed that the proposed station would cause predicted TV Channel 6 interference to WJAC-TV in Johnstown, Pennsylvania, in an area containing more than 4,000 persons, which is in violation of Section 73.525, Paragraph (c) of the FCC rules. In addition, it was discovered that the applicant's intended transmitter site, the WPTT-TV tower in Pittsburgh, was, in fact, not available as the antenna-supporting structure for the new station.

On May 20, 1991, He's Alive submitted an amendment to its application which attempts to resolve the above problems. He's Alive proposes a new transmitter site and a new directional antenna system, with proposed facilities of 199.5 watts maximum ERP, vertical polarization only, and 74 meters HAAT. Although the amendment apparently resolves the interference problem with Channel 6 station WJAC-TV in Johnstown, Pennsylvania, the amendment nevertheless contains several abnormalities which may render it unacceptable for filing.

An issue of most importance is the choice of antenna system. The applicant proposes a highly directional pattern with a very narrow beam. The antenna-supporting structure sketch of the He's Alive amended application (Exhibit VB-2) suggests that an antenna with three vertically-stacked dipole elements will be used. It is questionable, however, that such a pattern can be achieved with a conventional dipole antenna. Furthermore, to design an antenna that would closely match such a pattern could be prohibitively expensive. A quote obtained from a leading antenna manufacturer

for a vertical three-bay dipole antenna with an antenna pattern resembling that proposed by He's Alive, was \$22,000, as compared to a non-directional three-bay low power model which costs about \$5,000. A panel antenna could be designed which would easily match the proposed pattern, but this type of antenna is very expensive. It is likely that more than one panel would be required to form the proposed pattern. It is estimated that two three-bay panels would cost at least \$35,000. It is the obligation of the applicant to make proper allowances in their financial representations for such an expensive antenna.

Section 73.316, Paragraph (c) of the FCC rules states that, for a proposed directional antenna, a complete description of the antenna system must be provided, including the manufacturer and model number. The He's Alive engineer does not supply a manufacturer name or model number, nor, in lieu of a manufacturer name and model number, does the engineer describe the design of the antenna, as is required.

An examination of the proposed antenna pattern suggests that the pattern is in violation of Paragraph (b) of Section 73.316 of FCC rules. From the polar plot of the azimuth radiation pattern (Exhibit VB-II, Page 2), it is seen that the relative field at 340 and 350 degrees is 0.16, not 0.18 as reported in the tabulation of fields (Exhibit VB-II, Page 4). A field of 0.16 is 15.9 dB below the maximum field, which is in excess of the 15 dB maximum-to-minimum radiation ratio prescribed in 73.316(b)(1). In addition, the pattern exceeds the 2 dB per ten-degree-azimuth maximum radiation rate of change as per 73.316(b)(2) at several places in the radiation pattern. Calculations done by this affiant (shown in attached Figure 1) of the power levels in dBk every ten degrees azimuth, using the relative fields as proposed by He's Alive, reveal that the 2 dB per 10-degree limit is exceeded between 30 and 40 degrees, 140 and 150 degrees, 220 and 230 degrees, 300 and 310 degrees, and between 330 and 340 degrees.

The proposed Murrysville facility will not satisfactorily serve the borough of Murrysville with an acceptable signal level. Since the listed proposed community of license is Murrysville, it is expected that the proposed station would provide reasonable signal coverage within the corporate boundaries of Murrysville, even though the FCC rules do not require an NCE-FM station to provide a specific minimum signal level over the principal community. As shown on the attached Figure 2, using the FCC method of predicting coverage contours, the proposed Murrysville facility would provide a predicted signal level of 1 mv/m to only 21% of the entire

community of Murrysville. In the opinion of this engineer, this level of coverage is unacceptable according to standards of good engineering practice and constitutes inefficient use of the FM spectrum.

In addition, the transmission path of the Murrysville station, located at the specified coordinates, would be blocked by terrain in most of the area within Murrysville. Attached as Figure 3 is a map showing areas that would be "shadowed" by intervening terrain. The shadow areas are represented by the radial line segments drawn from the transmitter location. This map is based on the 3-arcsecond computerized terrain database. The calculations are based on the proposed transmitting antenna height of 396 meters AMSL and a receiving antenna height of 9.1 meters. A basic requirement of any FM transmitter site is that line-of-site transmission be obtained from the antenna over the principal community, requirement that is expressly stated in Section 73.315 of the FCC rules. By specifying an antenna-supporting tower whose height is only 34 meters above ground, which is meant to serve a community in mountainous terrain, and in plain view of the fact that there are several existing taller towers in this area that could be considered as alternative sites, it is clear that the facility proposed by He's Alive is technically inferior as a full-service FM facility.

In conclusion, the He's Alive proposal is unacceptable because:

- 1) It does not comply with the requirements of Section 73.316 of the FCC rules concerning the specification of a directional antenna;
- 2) The proposed station would not provide satisfactory coverage to the borough of Murrysville.

ATTACHED FIGURES

Figure 1 - - - - Tabulation of Horizontal Plane Radiations

Figure 2 - - - - Map Showing Predicted 1 mv/m Contour

Figure 3 - - - - Map Showing Terrain Shadowing

AFFIDAVIT

COUNTY	OF	OZAUKEE)	
)	SS:
STATE	OF	WISCONSIN)	

B. BENJAMIN EVANS, being duly sworn upon oath deposes and says:

That he is a Consulting Communications Engineer in Wisconsin, and is a partner in the firm of Evans Associates;

That his qualifications are a matter of record with the Federal Communications Commission;

That he has been retained by Carnegie-Mellon Student Government Corporation to prepare the instant engineering exhibit;

That he has either prepared or directly supervised the preparation of all technical information contained in this engineering exhibit, and that the facts stated in the attached engineering statement are true to his knowledge except such statements identified herein as based on information or belief and as to such statements he believes them to be true.

B. Benjamin Evans

Subscribed and sworn to before me this 12th day of July, 1991.

Notary Public

My Commission expires October 4, 1992

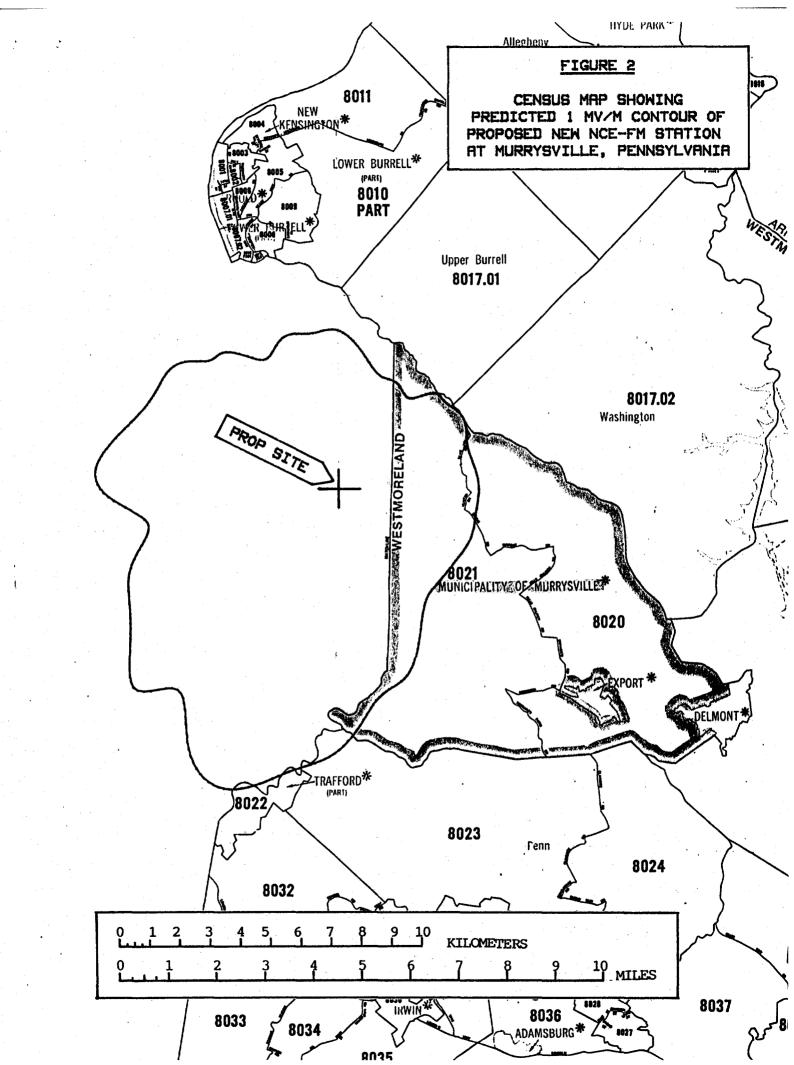
TABULATION OF HORIZONTAL PLANE RADIATIONS

PROPOSED NCE-FM STATION MURRYSVILLE, PENNSYLVANIA

Azimuth (deg T)	Relative Field	Power (KW)	Power (dBk)		Azimuth (deg T)	Relative Field	Power	Power (dBk)
0.0	0.180	0.006	-21.90		180.0	0.630	0.079	-11.01
10.0	0.180	0.006	-21.90		190.0	0.790	0.125	-9.05
20.0	0.180	0.006	-21.90		200.0	1.000	0.199	-7.00
30.0*	0.220	0.010	-20.15		210.0	0.890	0.158	-8.01
40.0*	0.280	0.016	-18.06		220.0*	0.710	0.101	-9.98
45.0	0.320	0.020	-16.90		225.0*	0.630	0.079	-11.01
50.0	0.280	0.016	-18.06		230.0*	0.560	0.063	-12.04
60.0	0.350	0.024	-16.12		240.0	0.560	0.063	-12.04
70.0	0.440	0.039	-14.13		250.0	0.560	0.063	-12.04
80.0	0.360	0.026	-15.87		260.0	0.470	0.044	-13.56
90.0	0.420	0.035	-14.54		270.0	0.450	0.040	-13.94
100.0	0.360	0.026	-15.87		280.0	0.450	0.040	-13.94
110.0	0.390	0.030	-15.18		290.0	0.360	0.026	-15.87
120.0	0.320	0.020	-16.90		300.0*	0.330	0.022	-16.63
130.0	0.260	0.013	-18.70		310.0*	0.260	0.013	-18.70
135.0	0.270	0.015	-18.37		315.0	0.240	0.011	-19.40
140.0*	0.250	0.012	-19.04		320.0	0.260	0.013	-18.70
150.0*	0.320	0.020	-16.90		330.0*	0.220	0.010	-20.15
160.0	0.400	0.032	-14.96		340.0 **	0.160	0.005	-22.92
170.0	0.500	0.050	-13.02	•	350.0**	0.160	0.005	-22.92
* 2 db n	er 10° varia	ation exc	eeded		** 15 db	max-to-min	radiatio	on ratio

^{* 2} db per 10° variation exceeded.

^{** 15} db max-to-min radiation ratio exceeded.



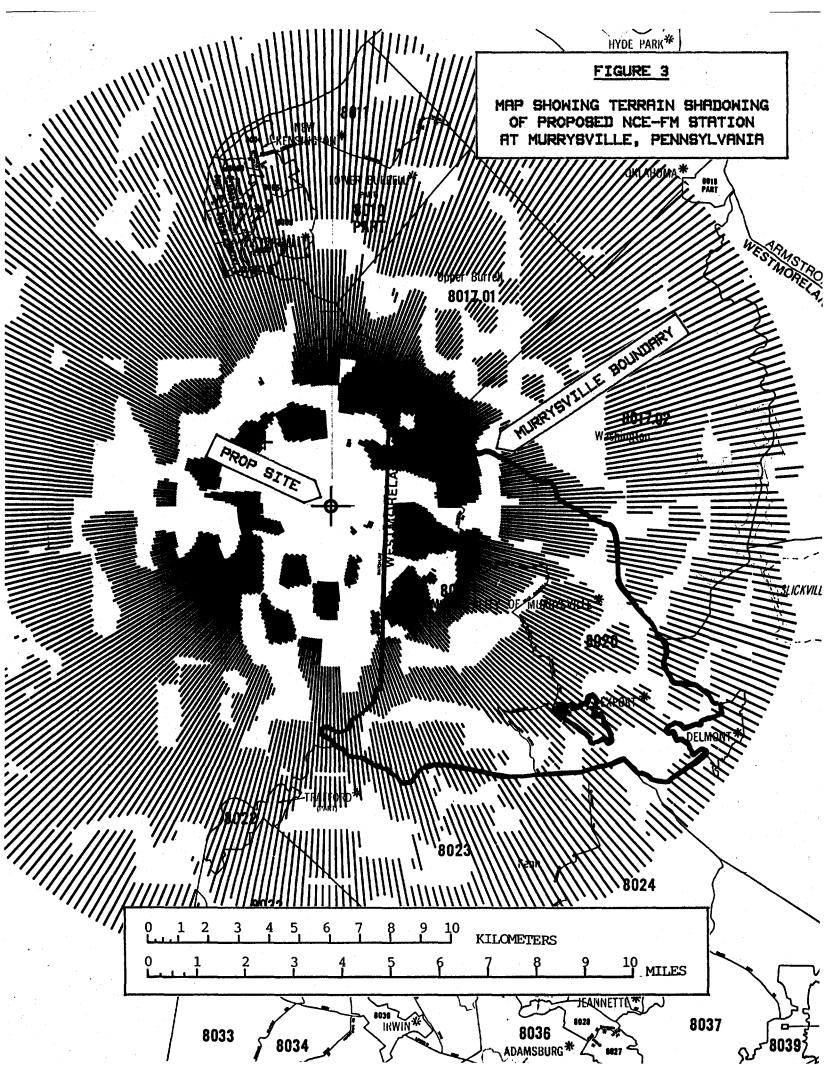
FM & TV CONTOUR CALCULATION TABULATIONS

HE'S ALIVE INC. Contour Basis: FM BROADCAST

CALCULATED FM CONTOURS - 50 % SIGNALS PROP NCE-FM MURRYSVILLE PA

E.R.P. = 0.200 KW DA H.A.A.T. = 73.9 M (243') ANTENNA HAMSL = 395.8 M (1299')

RADIAL								60 dBu KILOMETE	
=======	=====			=======		=======		========	======
0.0	331	101.0	0.180	1.74	3.28	14.55	2.81	5.27	23.42
10.0	254	77.3	0.180	1.56	2.87			4.62	20.55
20.0	192	58.6	0.180	1.37	2.49	11.09	2.21	4.00	17.85
30.0	159	48.4	0.220	1.39	2.48	11.13			17.91
40.0	123	37.4		1.38	2.44	11.02	2.22	3.93	17.73
45.0	139	42.5	0.320	1.57	2.78	12.55	2.53	4.48	20.20
50.0	162	49.4	0.280	1.58	2.83				20.40
60.0	145	44.1	0.350		2.96				21.49
70.0	104	31.8	0.440	1.59	2.82	12.74			20.51
80.0	129	39.3	0.360	1.60	2.83	12.79		4.56	20.58
90.0	115	35.1	0.420		2.89				21.01
100.0	- 132	40.3	0.360	1.62	2.87				20.84
110.0	125	38.1	0.390	1.64	2.90	13.10			21.08
120.0	145	44.1	0.320	1.60	2.84	12.79	2.58	4.57	20.58
130.0	171	52.1		1.56	2.81	12.56	2.52		20.21
	167		0.270		2.82	12,64			20.35
140.0	184	56.0	0.250	1.59	2.86	12.78			20.56
150.0	198		0.320	1.0,	3.35				24.08
160.0	236		0.400		4.08	18.07			29.08
170.0	221	67.5			4.41				31.23
1	259	78.9			5.37			8.65	37.09
190.0	249	75.8	0.790		5.91	24.95			40.16
200.0	244		1.000	3.71	6.58	27.23			43.83
210.0	242		0.890		6.19	25.93		9.97	41.73
220.0	225		0.710	3.02	5.33	22.84			36.76
225.0	306	93.3	0.630	3.32	5.84	24.75			39.83
230.0	318		0.560	3.18	5.61				38.49
240.0	248		0.560	2.81	4.95	21.47			34.56
250.0	206	62.9			4.51	19.75			31.78
260.0	193			2.26	3.98	17.68			28.45
270.0	299		0.450		4.88				34.17
280.0	292		0.450		4.82	21.00			33.80
290.0	302		0.360		4.39	19.28	3.95		31.03
300.0				2.36		18.64		6.82	29.99
	357			2.22	4.08	17.89			28.79
315.0	323			2.03					26.56
320.0	288	87.7		2.01	3.67	16.23			26.12
330.0	237		0.220	1.68	3.07	13.63			21.94
340.0	340		0.180		3.31				23.69
350.0	328	100.1	0.180	1.74	3.26	14.49	2.80	5.25	23.32



CERTIFICATE OF SERVICE

I, Cathleen Foley, Secretary in the law firm of Putbrese, Hunsaker & Ruddy, hereby certify that I have on this <u>15th</u> day of July, 1991, sent, by United States Mail, Postage prepaid, copies of the foregoing, "Supplement to Petition to Dismiss or Deny" to the following:

Lee J. Peltzman, Esquire
Baraff, Koerner, Olender & Hochberg, PC
5335 Wisconsin Avenue, NW
Washington, DC 20015
Counsel for He's Alive, Incorporated

Earl R. Stanley, Esquire
Wilkinson, Barker, Knauer & Quinn
1735 New York Avenue, NW
Washington, DC 20006
Counsel for WJAC, Inc.

Dennis Williams, Chief
FM Branch - Mass Media Bureau
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Cathleen Foley